

REMARKS

In the Office Action, claims 1-49 were rejected. By the present Response, claims 1, 15, 31, 41, 41, and 42 are amended, and claims 24-30 and 36-39 are canceled. Upon entry of the amendments, claims 1-23, 31-35, and 40-49 will remain pending in the present patent application. Reconsideration and allowance of all pending claims is requested.

Amendments to the Claims

Independent claim 1 was amended to recite, *inter alia*, “a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data,” and “a served station from which a remote operator may interact with the serving station, the severed station being configured to receive modified image data from the serving station via a network.”

Additionally, independent claims 15 and 31 were amended to recite, *inter alia*, “the method comprising: linking a serving station to a served station via a network, the serving station being coupled to a medical diagnostic imaging system for controlling the imaging system and being configured to receive image data, the served station enabling a remote operator to interact with the serving station, the served station being configured to receive modified image data from the serving station via a network.”

Furthermore, independent claims 40 and 41 were amended to recite, *inter alia*, “the system comprising: a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data; a served station from which a remote operator may interact with the serving station, the severed station being configured to receive modified image data from the serving station via a network.”

Finally, independent claim 42 was amended to recite, *inter alia*, “a serving station configured to receive the image data and control the imaging system, the serving station

comprising...,” and “a served station configured to receive modified image data from the serving station and to interact with the serving station via a network.”

These amendments are fully supported by the specification, and serve to clarify the invention. As stated in the specification, the instant invention “relates generally to dynamically adapting the remote console observation between remote service engineers and/or instructors and local operators to account for network performance when *operating remotely* with a medical imagine system.” Application, page 3, lines 9-12. Thus, the instant application relates to the remote operation of a workstation by a “*remote operator.*” *Id.*, page 3, line 26 (emphasis added). There are clear benefits derived from this invention. As the specification notes, “as the availability of qualified service technicians may be limited, remote access for training and diagnostic purposes” reduces the travel costs associated with training and diagnostic servicing of the medical imaging system. *Id.*, page 4, lines 31-32, and page 5, lines 1-6.

As further noted in the specification, Fig. 1 represents “an exemplary medical imaging system configured for *remote operation* via the present technique.” *Id.*, page 4, lines 8-9. One of the desirable functions of the instant invention is to “provide *remote access* for training and diagnostic purposes to limit travel costs associated with the training and diagnostic servicing of the medical imaging system.” *Id.*, pages 5, lines 4-7 (emphasis added). The specification goes on to note that the served station “utilize(s) a network 20 to *interact with the imaging system 10,*” and that “it may further be advantageous to *dynamically or automatically adjust the interaction* based on the network performance.” *Id.*, page 5, lines 10-11 and lines 15-16 (emphasis added). The specification further states that, “the remote operator workstation 16 *allows a remote operator to access elements of the imaging system 10 via the network 20.*” *Id.*, page 8, lines 6-7 (emphasis added).

Additionally, the specification states that “similar to the local inputs 42, *filtered inputs 44 may be received from the remote operator workstation 16*. The filtered inputs 44 may be *remote inputs 46* that are *entered by the operator at the remote operator workstation 16*. The remote operator workstation 16 *transmits the remote inputs 46* in the form of *remote user inputs 48* to an input guard 50 in the medical facility 12 via the network 20,” and “from the input guard 50, *filtered inputs 44 may be received at the local operator workstation 14*, which may be *remote user inputs 48* that are permitted by the input guard 50.” *Id.*, page 10, lines 23-32 (emphasis added). These features of the present invention are further supported in the specification, as the specification states “the *remote operator at the remote operator workstation 16 may enter remote inputs 46* that are *transmitted to the local operator workstation*.” *Id.*, page 14, lines 9-11 (emphasis added). Regarding the discussion of Fig 3, the specification states that “the local operator workstation may receive imaging data and *inputs from other sources, such as ... remote inputs 46* (Fig. 2).” *Id.*, page 15, lines 19-21 (emphasis added).

Thus, the amendments serve to clarify the remote operation/control of the medical diagnostic imaging system in the instant invention. The amendments are fully supported by the specification, as is clear from the above discussion. The amendments add no new matter. Accordingly, Applicants respectfully request entry of the amendments.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 15-17, 20, 24, 25, 27, 31, 36, 40, and 41 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,968,132 A, Tokunaga et al. (hereinafter “Tokunaga”). Office Action, page 2. Applicants have cancelled claims 24, 25, 27, and 36, and amended independent claims 15, 31, 40, and 41 as discussed above.

In view of these amendments, Applicants respectfully traverse this rejection. A *prima facie* case of anticipation under 35 U.S.C. § 102 requires a showing that each

limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985).

Tokunaga fails to recite a serving station coupled to a medical diagnostic imaging system for controlling the imaging system.

Amended independent claims 15 and 31 recite, *inter alia*, “the serving station being *coupled to a medical diagnostic imaging system for controlling the imaging system* and being configured to receive image data.” (Emphasis added.) Additionally, claims 40 and 41 recite, *inter alia*, “a serving station *coupled to a medical diagnostic imaging system for controlling the imaging system* and configured to receive image data.” (Emphasis added).

Tokunaga relates generally to an arrangement for the automatic adjustment of image data communication based on network traffic. Tokunaga teaches performing this adjustment by altering the set number of frames, dynamically selecting an image transferring system, excluding the display of unnecessary image data, or by allowing selected portions of image data to be displayed preferentially or at a higher resolution. *See*, Tokunaga, column 59, lines 24-66.

In contrast, Tokunaga does not teach a serving station that is coupled to a medical diagnostic imaging system for the purpose of controlling the imaging system, while receiving data from the imaging system. The Tokunaga reference only teaches the actual adjustment of image transfer data. Therefore, Tokunaga cannot anticipate amended independent claims 15, 31, 40 and 41, or their dependent claims.

Tokunaga fails to recite a served station that enables a remote operator to interact with the serving station.

Amended independent claims 15 and 31 recite, *inter alia*, “the served station enabling a remote operator to interact with the serving station, the served station being

configured to receive modified image data from the serving station via a network.” (Emphasis added.) Additionally, claims 40 and 41 recite, *inter alia*, “*a served station from which a remote operator may interact with the serving station*, the severed station being configured to receive modified image data from the serving station via a network.” (Emphasis added.)

Tokunaga teaches a receiving computer which “controls and displays the received imaged data on the display.” Tokunaga, column 1, lines 38-39. This feature is described in further detail in the discussion of the display control unit of the receiving unit. *See*, Tokunaga, column 7, line 26. In Tokunaga, the receiving unit is capable of sending “survey data back to the image transmitting side computer.” *Id.*, column 18, lines 33-38. Furthermore, Tokunaga teaches the image receiving unit having “a function as a frame number adjusting signal outputting unit for outputting a signal instructing the image data transmitting side to adjust the number of transferring frames.” *Id.*, column 40, lines 27-24.

In contrast to the instant invention, controlling received image data is not the same as allowing a remote operator at a served station to interact with the serving station, as recited in amended independent claims 15, 31, 40, and 41. Interaction with the serving station differs from control of the image data once it has been received, and from outputting a signal instructing adjustment of the number of transferring frames, both of which merely relate to the adjustment of the image data or the image data transfer. Remote operator “interaction,” such as in the instant amended application, allows a level of remote control over the serving station from the served station, and thus interaction with the medical imaging system itself. Furthermore, merely sending survey data back to the image transmitting side is not the same as the remote interaction discussed above. Therefore, Tokunaga cannot anticipate amended independent claims 15, 31, 40 and 41, or their dependent claims.

Rejected Dependent Claims

The claims 16, 17, and 20 rejected under 35 U.S.C. § 102 as being anticipated by Tokunaga all depend from independent claim 1, also rejected under U.S.C. § 102 as being anticipated by Tokunaga. However, as discussed above, Tokunaga fails to anticipate each element of independent claim 1. Accordingly, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 102 and allowance of the foregoing claims.

Accordingly, for at least the reasons set forth above, the Applicants respectfully submit that Tokunaga does not anticipate amended independent claim 15, 31, 40, 41 or their dependent claims.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1-2, 6, 9, 11, 13, 42, 46 and 49 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 2004/0005094 A1, Huffman (hereinafter “Huffman”) in view of U.S. Patent No. 6,642,943 B1, Machida (hereinafter “Machida”). Office Action, page 10. The Examiner rejected claims 3-5, and 10 under 35 U.S.C. § 103(a) as being unpatentable over Huffman, as modified by Machida, and in further view of U.S. Patent No. 7,143,159 B1, Grace et al., (hereinafter “Grace”). Office Action, page 18. The Examiner rejected claims 7, 8 and 47 under 35 U.S.C. § 103(a) as being unpatentable over Huffman, as modified by Machida, and in further view of U.S. Patent No. 7,047,312 B1, Aweya et al., (hereinafter “Aweya”). Office Action, page 22. The Examiner rejected claims 12 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Huffman, as modified by Machida, and in further view of U.S. Patent No. 6,642,943 B1, Deaven et al., (hereinafter “Deaven”). Office Action, page 25. The Examiner rejected claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Tokunaga, in view of U.S. Patent No. 2002/0082864 A1, Kelley et al., (hereinafter “Kelley”). Office Action, page 28. The Examiner rejected claims 19, 29, 33, and 38 under 35 U.S.C. § 103(a)

as being unpatentable over Tokunaga, in view of U.S. Patent No. 2005/0023356 A1, Wiklof et al., (hereinafter “Wiklof”). Office Action, page 30. The Examiner rejected claims 21 28, 34, and 35 under 35 U.S.C. § 103(a) as being unpatentable over Tokunaga, in view of U.S. Patent No. 2002/0018587 A1, Ueda, (hereinafter “Ueda”). Office Action, page 36.

Additionally, the Examiner rejected claims 22, 30, and 39 under 35 U.S.C. § 103(a) as being unpatentable over Tokunaga, in view of U.S. Patent No. 2004/0165538 A1, Swami, (hereinafter “Swami”). Office Action, page 40. The Examiner rejected claim 23 under 35 U.S.C. § 103(a) as being unpatentable over Tokunaga, in view of Machida. Office Action, page 43. The Examiner rejected claim 26 under 35 U.S.C. § 103(a) as being unpatentable over Tokunaga, as modified by Machida, in view of U.S. Patent No. 2004/0054667 A1, Kake et al., (hereinafter “Kake”). Office Action, page 45. The Examiner rejected claims 32 and 37 under 35 U.S.C. § 103(a) as being unpatentable over Tokunaga, in view of Aweya. Office Action, page 47. The Examiner rejected claim 43 under 35 U.S.C. § 103(a) as being unpatentable over Huffman, as modified by Machida, and in further view of Kelley. Office Action, page 49. The Examiner rejected claim 44 under 35 U.S.C. § 103(a) as being unpatentable over Huffman, as modified by Machida, and in further view of Kake. Office Action, page 51. The Examiner rejected claim 45 under 35 U.S.C. § 103(a) as being unpatentable over Huffman, as modified by Machida, and in further view of Tokunaga. Office Action, page 52. Finally, the Examiner rejected claim 48 under 35 U.S.C. § 103(a) as being unpatentable over Huffman, as modified by Machida, and in further view of Wiklof. Office Action, page 53.

Applicants have cancelled claims 26, 28-30, and 37-39, and amended independent claims 1, 15, 31, and 40-42 as discussed above. In view of these amendments, Applicants respectfully traverse these rejections. The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte*

Wolters and Kuypers, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Applicants respectfully assert that the references cited by the examiner, when considered separately or in a hypothetical combination, fail to disclose all of the elements of amended independent claims 1 and 42, or their dependent claims.

Rejected Dependent Claims

The claims 18-19, 21-23, and 32-35, rejected under 35 U.S.C. § 103 all depend from independent claims rejected under U.S.C. § 102 as being anticipated by Tokunaga. Claims 18-19, and 21-23 depend from independent claim 15 and claims 32-35 depend from independent claim 31. However, as discussed above, Tokunaga fails to anticipate each element of independent claims 15 and 31. Furthermore, Kelly, Wiklof, Ueda, Swami, Machida, and Aweya, when considered separately or in a hypothetical

combination, fail to cure the deficiencies in Tokunaga. As such, Tokunaga and the above mentioned references cannot render the recited subject matter obvious. Accordingly, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103 and allowance of the foregoing claims.

Huffman fails to teach a serving station coupled to a medical imaging system for controlling the imaging system.

Amended claim 1 recites, *inter alia*, “a serving station *coupled to a medical diagnostic imaging system for controlling the imaging system* and configured to receive image data.” (Emphasis added.) Additionally, amended independent claim 42 recites, *inter alia*, “a remote viewing system for a *medical imaging system*,” and “a serving station configured to receive the image data and *control the imaging system*.” (Emphasis added.) Huffman does not read on at least these recitations of the amended claims.

In general, Huffman teaches a lossless data compression technique used during transmission over a network to a client. *See*, Huffman, paragraph 19. Huffman teaches a technique that allows for certain portions of data to be compressed and decompressed via a compression algorithm. *Id.*, paragraph 8. Furthermore, Huffman teaches that “the source data comprises source images, such as medical images.” *Id.*, paragraph 8. However, even though Huffman does indicate that the source data can include medical imaging, Huffman does not teach the coupling of a medical imaging system to a serving station for controlling the imaging system, as is recited in amended claims 1 and 42.

Therefore, Huffman does not teach the above mentioned recitations of amended independent claims 1 and 42, or their dependent claims, 2-14, and 42-49, respectively. Additionally, Machida does not remedy the above deficiencies, as discussed below. Furthermore, the additional references in the dependent claims,

Grace, Aweya, Deaven, Kelly, Kake, Tokunaga, and Wiklof, when considered separately or in a hypothetical combination, fail to remedy the above deficiencies.

Huffman fails to teach a served station that enables remote interaction with the serving station.

Amended claim 1 recites, *inter alia*, “a served station from which a remote operator may interact with the serving station, the severed station being configured to receive modified image data from the serving station via a network.” (Emphasis added.) Additionally, amended independent claim 42 recites, *inter alia*, “a served station configured to receive modified image data from the serving station and to interact with the serving station via a network.” (Emphasis added.) Huffman does not read on these recitations of the amended claims.

As discussed above, Huffman teaches a lossless data compression technique used during transmission over a network to a client. However, Huffman does not teach a served station that allows for remote interaction with the serving station. Data compression and transmission over a network, which relate merely to the modification of image data during transfer, as Huffman teaches, is not the same as remote operator interaction with the serving station, as disclosed in the instant application. As discussed above, “interaction,” such as recited in the amended claims, allows a level of remote control over the serving station by the served station, and thus interaction with the medical imaging system itself.

Therefore, Huffman does not teach the above mentioned restrictions of amended independent claims 1 and 42, or their dependent claims, 2-14, and 42-49, respectively. Additionally, Machida does not remedy the above deficiencies, as discussed below. Furthermore, the additional references mentioned above, when considered separately or in a hypothetical combination, fail to remedy the above deficiencies.

Accordingly, for at least the reasons set forth above, the Applicants respectfully submit that Huffman does not disclose the above mentioned recitations of amended independent claim 1 and its dependent claims 2-11, or amended independent claim 42 and its dependent claims 43-49. Furthermore, Machida does not remedy the above deficiencies.

Machida fails to teach a serving station coupled to a medical diagnostic imaging system for controlling the imaging system.

Amended claim 1 recites, *inter alia*, “a serving station *coupled to a medical diagnostic imaging system for controlling the imaging system* and configured to receive image data.” (Emphasis added.) Additionally, amended independent claim 42 recites, *inter alia*, “a remote viewing system for a *medical imaging system*,” and “a serving station configured to receive the image data and *control the imaging system*.” (Emphasis added.) Machida does not read on these parts of the amended claims.

Machida teaches, in general, a technique to share/combine multiple device data sources, such as printers, modems, and image formation apparatus, on a network, and to use them in order. *See*, Machida, column 1, lines 19-22 and lines 45-48. In Machida, peripheral-device functions are performed by operating a computer. *Id.*, column 9, lines 44-48. Additionally, Machida monitors the traffic on the network and adjusts the resolution of an output device in consideration of the traffic on the network. *Id.*, column 15, lines 35-42, and column 37, lines 27-28. Furthermore, Machida teaches that “a printer and an image reading apparatus (e.g., the scanner) which are shared on the network are controlled through the communication control unit.” *Id.*, column 5, lines 32-34.

In contrast, Machida does not teach a served station coupled to a medical diagnostic imaging system for controlling of the imaging system. Using a computer to control peripheral devices, such as printers and scanners, in order to combine their

functionality, as Machida teaches, differs from a serving station controlling a medical imaging system, as is recited in the amended independent claims 1 and 42.

Therefore, Machida does not teach the above mentioned restrictions of amended independent claims 1 and 42, or their dependent claims, 2-14, and 42-49, respectively. Additionally, Huffman does not remedy the above deficiencies, as discussed above. Furthermore, the additional references mentioned above, when considered separately or in a hypothetical combination, fail to remedy the above deficiencies.

Machida fails to teach a served station that enables remote interaction with the serving station.

Amended claim 1 recites, *inter alia*, “a served station *from which a remote operator may interact with the serving station*, the served station being configured to receive modified image data from the serving station via a network.” (Emphasis added.) Additionally, amended independent claim 42 recites, *inter alia*, “a served station configured to receive modified image data from the serving station and to *interact with the serving station* via a network.” (Emphasis added.) Machida does not read on these recitations of the amended claims.

As discussed above, Machida teaches a technique to share/combine multiple device data sources on a network, and to use them in order. See Machida, column 1, lines 19-22 and lines 45-48. In Machida, peripheral-device functions are performed by operating a computer. *Id.*, column 9, lines 44-48. Additionally, Machida teaches “a printer and an image reading apparatus (e.g., the scanner) which are shared on the network [and] are controlled through the communication control unit.” *Id.*, column 5, lines 32-34.

However, in contrast, Machida does not teach a served station that allows for remote interaction with the serving station. Data compression and transmission, or the control of peripheral devices, such as printers and scanners, in order to combine their functionality, as Machida teaches, is not the same as remote operator interaction with the serving station, as is recited in the amended claims. As previously discussed, “interaction” allows a level of remote control over the serving station by the served station, and thus interaction with the medical imaging system itself, which is absent in Machida.

Therefore, Machida does not disclose the above mentioned recitations of amended independent claims 1 and 42, or their dependent claims, 2-14, and 42-49, respectively. Additionally, Huffman does not remedy the above deficiencies, as discussed above. Furthermore, the additional references mentioned above, when considered separately or in a hypothetical combination, fail to remedy the above deficiencies.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that independent claim 1 and its dependent claims 2-11, as well as amended independent claim 42 and its dependent claims 43-49 are clearly patentable over the cited references.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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